REMARKS/ARGUMENTS

Consideration of the above-identified application in view of the present amendment is respectfully requested. By the present amendment, claims 1, 9 and 23 are amended, claims 11-22 are canceled, and new claim 26 is added. Claims 1-5, 9, 10, and 23-26 are pending in the application.

Claims 1-5, and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over EP 0 451 674 B1 (ELCO) in view of US 5,823,830 (Wurster), and claims 10 and 23-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over ELCO in view of Wurster and in further view of US 6,309,259 B1 (Yamashita). Applicant respectfully submits that claims 1-5, 9, and 23-25, as well as new claim 26, are patentable over these references.

Independent claims 1, 23 and 26 each recite that the pin includes spaced beam portions defined by an opening with an inner surface consisting essentially of a plurality of blended cylindrical surfaces free from flat surfaces. The beam portions include respective interface portions having cylindrical inner and outer surfaces that are free from flat surfaces, that are convex, and that face away from each other. This is not taught or suggested in the references cited in the Office Action.

In particular, as recited in claim 1, the inner surface defined by the opening extending through the pin is defined by cylindrical surfaces that are blended with each other. The inner surface does not include any flat surfaces and thus is formed in its entirety by the cylindrical surfaces. The outer

surfaces of the interface portion, i.e., the portions that engage the side wall of the through-hole, are also cylindrical and free from flat surfaces.

These features are not mere changes or variations in shape or size. These features provide advantages not disclosed or realized in the prior art cited in the office action. The configuration of the beam portions, having the smoothly contoured configuration defined by the blended radiuses of the opening and the cylindrical outer surfaces, helps distribute the stresses uniformly throughout the interface portions. This configuration does so by avoiding the formation of corners or intersections in the beam contour that may act as stress risers. This helps prevent overstressing the beam portions, which can lead to part failure, and also helps prevent plastic deformation of the beam portions, which can lead to reduced retention forces.

The present invention recognizes that the avoidance of stress risers is of particular importance in the design of compliant pins. This is because compliant pins using no solder rely solely on the beam portions to provide retention forces. As described above, stress risers can be detrimental to the retention forces provided by the beam portions. The prior art cited in the Office Action does not teach or suggest the importance of avoiding stress risers in the beam portions.

As clearly shown in the Figure disclosed in ELCO, the inner surfaces and outer surfaces of the beams include flat surfaces, which, as described above, can lead to part failure and reduced retention forces. The flat surfaces also

effectively reduce the width or cross-sectional area of the beam portions, which is also detrimental to the retention force of the beam portions.

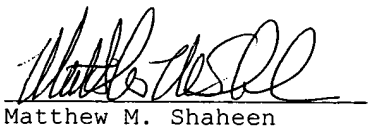
Wurster does little to fill these gaps. In Wurster, the inner surface is clearly concave. Therefore, ELCO and Wurster, alone or in combination, do not teach or suggest beam portions with interface portions that are cylindrical, convex, and facing away from each other.

For the reasons set forth above, applicants respectfully submit that claims 1, 23, and 26 are allowable. Claims 2-5, 9, and 10 depend from claim 1, and claims 24 and 25 depend from claim 23 and therefore are allowable as depending from allowable claims and for the specific features recited therein.

In view of the foregoing, it is respectfully submitted that the above identified application is in condition for allowance, and allowance of the above-identified application is respectfully requested.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,



Matthew M. Shaheen
Reg. No. 45,367

TAROLLI, SUNDHEIM, COVELL,
& TUMMINO L.L.P.
526 Superior Avenue - Suite 1111
Cleveland, Ohio 44114-1400
Phone: (216) 621-2234
Fax: (216) 621-4072
Customer No.: 26294